

Title (en)

Moiré-based autostereoscopic images by duplex printing on transparencies

Title (de)

Moiré-basierte autostereoskopische Bilder durch beidseitigen Druck auf Transparente

Title (fr)

Images autostéréoscopiques à Moiré par impression recto-verso de transparents

Publication

**EP 1780681 B1 20120111 (EN)**

Application

**EP 06123173 A 20061030**

Priority

US 26319005 A 20051031

Abstract (en)

[origin: EP1780681A1] Provided herein are teachings directed to using duplex printing on transparencies to create auto-stereoscopic images viewed in a "see-through" manner. By choosing different halftone structures, differing by having different spatial frequencies for each of the two sides of a transparency, a moiré pattern resulting due to halftone overlapping can be observed. On one side of the transparency is provided a uniform halftone with a selected median spatial frequency as printed. On the other side, the printing consists of two partitions: what is to be perceived as the background is printed using a halftone with spatial frequency equal to the median plus some delta x, while a desired image partition is printed using a halftone with a spatial frequency equal to the median minus the same delta x. The spatial frequency difference between the halftones on two sides creates a corresponding shift-magnification factor M. The moiré produced by the two partition print images as visually located appear in two separate spatial planes as separated by the transparency, with an amplified total depth of the shift-magnification factor M times the thickness of the transparency. This yields a moiré stereoscopic pattern for the desired image partition as clearly discernable to the human eye with out aid of lenses or other means.

IPC 8 full level

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